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Author(s): Robert E. Cushman

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GREEK AND CHRISTIAN VIEWS OF TIME

ROBERT E. CUSHMAN*

IT IS commonly agreed that the Christian doctrine of the Word made flesh gives to history a significance it did not possess for classical Greek thought. Time ceases to be circular and acquires directionality. Directionality is constituted not only by *telos* but by *fnis*. Time has beginning with creation, receives its *telos* through the Incarnation, and has its *fnis* with the Last Judgment. Time, thus, acquires meaning as the interval of duration between creation and redemption. As such, it has an irreversible direction.

The purpose of this paper is a limited one. I propose to compare the Platonic-Aristotelian views of time with that of Augustine. Perhaps we shall be able to determine whether or not classical Greek thought attained to the concept of historical as distinct from physical time—if not, why not. We shall also be concerned to understand in what sense there are “kinds” of time, although time is essentially one thing, viz., duration. A certain directionality of time is a mode under which the Christian apprehends the power and purpose of God—the purpose of

redemption. In such a perspective history becomes *heilsgeschichte*, or saving history. But this perspective would be quite impossible for the Greek mind in so far as it did not attain to the conception of teleological or historical time. Actually, for the Greeks, humane existence as such is as assured of dissolution as of fulfillment.

I. PLATO CONCERNING TIME

Plato's treatment of time is meager and, apart from three pages of the *Timaeus* (36e–39e), entirely casual. In essentials, his position is twofold: (1) time is a concomitant of all change in the realm of Becoming; (2) time is a certain number or measure of all change, positional or organic. Both these views are expressly developed in the *Timaeus*. Elsewhere, Plato ordinarily conceives time as duration or interval.¹ Customarily, he conceives change always in conjunction with time lapse.²

Although Plato's explicit consideration of the nature of time is curiously fragmentary, the distinction between temporal and eternal is indispensable for his ontology and is continuously presupposed in the *Dialogues*. Time, *kronos*, is required to signalize the discontinuity between that “which is existent always and has no becoming” and that “which is always becoming and is never existent.”³ The “always becoming” is the realm of sensible and corporeal particulars. It is the sphere of generation where all things are subject to the endless process of coming to be and passing away. This is

* Robert E. Cushman is professor of systematic theology at the Divinity School in Duke University, Durham, N.C. He has taught in Yale University (1942–43) and the University of Oregon (1943–45). Professor Cushman was educated at Wesleyan University (A.B. 1936), Yale Divinity School (B.D. 1940), and Yale University (Ph.D. 1942). His publications include editing *Religion and World Politics* (1945) and several articles. Recently he was a delegate to the Lund Conference. The present article is a revised version of a paper presented to the Duodecim Theological Group, New York City, 1951, as a contribution to a symposium on the Christian view of time.

physical nature. When Plato declares that things of Becoming are "never existent," he does not signify that they have no being at all. He intends two things: First, that everything in the cosmos, perhaps the cosmos itself, is most radically in process, in process of coming-and-ceasing to be. Second, he means by "never existent" a condition contrary to that of eternal Being which everlastingly abides. He means, therefore, to specify a deficient degree of being in the "never existent." Accordingly, physical Becoming is "between" that kind of reality which "altogether is" and an abstract but real "material" substratum which, in Plato's defined sense, is not.⁴

We may say, then, that Plato's ontology requires that time shall be regarded as a condition inseverable from all that becomes. Time, whatever else it is, is the assurance that all Becoming shall be evanescent and finite. And, here, finitude involves *finis* of every particular, viz., its interval of existence is a curve limited in respect to duration. Accordingly, temporality is a mark of deficient being. The mark of complete Being is permanency; that of Becoming impermanency. As all particulars strive to actualize their Form and do so only deficiently, so all particulars strive after permanency, the Eternal; but their moment of partial attainment is succeeded by dissolution.⁵ Limited duration or temporality is the ineluctable fate of all that becomes.

Plato's initial approach to time versus eternity was probably by way of reflection upon the nature of knowledge, *epistēmē*. Hitherto the word was highly ambiguous with no commonly acknowledged denotation. For Sophists, like Protagoras, knowledge was equated with sense perception. Aristotle's deductions are pretty reliable when he indicates that Plato abandoned the senses as

avenues of knowledge because objects of sense are in continual flux and do not admit of stable apprehension. This is corroborated adequately in Plato's *Dialogues*.⁶ Knowledge, therefore, must have to do with what "abides" and may be the object of common acknowledgment and communication. For this reason, Plato identified that which is "most intelligible" with that which "most truly is" (*Rep.* 479a). Thus "essence" is taken to signify Being in the superlative degree. This sphere of reality is "divine, immortal, intellectual, uniform and ever unchanging." Reality, in the privileged sense, exists in an "eternal now." It is strictly timeless as well as spaceless.

In the *Timaeus* Plato first considers the nature of time systematically and in connection with cosmology. Of necessity the cosmos, which is always coming to be but never truly *is*, must be distinct from the eternal "Model" of which it is a likeness. This statement is followed by the famous assertion that the cosmos is an everlasting but moving image of eternity that moves according to number (*Tim.* 37d). Now, it is the moving of the image according to number (*κατ' ἀριθμὸν*) which constitutes time. The *uranos*, heaven, is pre-eminently an image of eternity in the sense that its movement is all-embracing and majestic in order and measure. Hence, for certain purposes, time is said to come into existence along with the heaven; and, as the ideal "Model" of the cosmos exists through all eternity unchanging, the moving image exists through all time "continually having existed, existing, and being about to exist" (*Tim.*, 38c).

Time, then, comes into existence. It obtains wherever motion of bodies is measured according to some numerically determinate unit standard. Without orderly movement of the cosmos, there is

no time. Because of time, as well as motion, the cosmos is an image of the eternal "Model." Time is the number or measure of motion. Generically considered, it does not matter what motion be designated, although the more uniform will be the more numerable. Strictly speaking, however, time is dependent upon any *orderly* motion whatever, whether the movement of the circle of "fixed stars" or the movement of any discrete body in space. In Plato's ontology, time is the indication that order and number have been superimposed upon the unordered and immoderate motions of the "material" substratum of Becoming.

If time is the measure of any motion whatever, it remains to inquire whether Plato envisions some universal standard of time. In ancient Greek religious tradition, *eniautos*, the year, signified the perennial round of the seasons. Time was popularly identified with the cyclical return of the seasons upon themselves.⁷ Plato refers to this tradition in the *Cratylus* (410d). In the *Timaeus*, however, the influence of fifth-century astronomy becomes evident. Simultaneously with the "generation" of the heaven, days, months, and years come to be. The year, however, is not denoted by the return of the seasons but by the sun's completion of the ellipse of its own orbit. The year is the time required for the sun to leave and return to the degree longitude marked by the winter solstice. The month is time required for the moon to complete its phases. Hence, Plato speaks of sun, moon, and planets as "determining and preserving the numbers of time" (*Tim.* 38c). Thus, the day, month, and year are convenient standard intervals by reference to which motions of all sub-lunary bodies are measurable in respect to duration. Length of time, then, is a

co-implicate of the uniform movement of bodies through measured space, viz., degrees longitude. The standard interval of time is the correlate of distance covered by a specified body moving at uniform velocity. This is what we have come to call "clock time" or physical time. It is the amount of space traversed by a body in uniform motion. Directionality is here entirely accidental; the only requisite is uniform velocity in space.

There is, nevertheless, a manner in which time, for Plato, retains the cyclical character of *eniautos*, the revolving seasons. Also, in their common cyclical nature, both time and "generation" or Becoming are analogous to one another. In the *Phaedo* (72b) there is the striking statement that "generation" is "always curving back on itself." Plato's reasoning here is somewhat obscure, but other passages of the *Dialogues* make it clear that the inherent nature of *genesis* is elliptical, a continuous movement around two opposite or antithetical poles. It is axiomatic for Plato that "for everything that has come into being destruction is appointed."⁸ Generation is an everlasting cycle, but everything "circles round according to number" (*Tim.* 38a). Thus, the number or measure of generation is time, and time, accordingly, possesses the cyclical nature of generation. Whether, therefore, Plato makes time a correlate of uniform solar rotation or an analogue of the cycle of generation, the only direction of time is cyclical.

Before drawing a few implications of Plato's view, a word should be said about the "parts of time." Plato speaks of "past" and "future" as "generated forms" of time. Coming to be and passing away is the nature of all that becomes. Things are about to be or have been. Only in a very inaccurate sense may we speak of the "present," of the "is," of any

particular (*Tim.*, 38b). No thing is what it is long enough to be called "this" but only "such-like."⁹ Accordingly, the present-of-time is really specious. It is only respecting intelligible Being, which "abides ever the same," that we rightly use the present tense of the verb "to be." But that present, that "is," is an eternal now. The temporal does not admit of a "real" present. It is constituted of "will be," a fleeting indistinguishable present, and a "has been." The absence of a "real" present is, again, Plato's way of exhibiting the difference between Becoming and Being. Hence, in knowledge, as distinct from perception, the transition which the mind makes is from a specious to a real present—from time to eternity. Moreover, a specious present—a world to which the "real" present does not apply—is a world deficient in Being. If, however, the present-of-time were actual, there would cease to be difference between Becoming and Being, between time and eternity, between the *is* and the *ought*. There would be the end of process and becoming.

Finally, it should be observed that time and Becoming do not exist apart from the contribution of eternity and Being. Time does not exist apart from the existence of ordered as distinguished from unordered motion. There are both kinds in Plato's universe. It is number, the formal principle or *peras*, which, by ingression into the "material principle," imposes order upon "unorder" and accounts for the rhythmic processes of nature. The existence of time, then, is the indication that Becoming is a realm of deficient being between complete Being and its negation.

Time and Becoming are cyclical. Plato therefore leaves us the melancholy result that we can only have process, in contrast with Being, by having it in the form

of everlasting recurrence. There is an important corollary. Plato does not look to any future "now," to any present in the future, for realization of the ideal Good. He does look for amendment of human existence in proportion as men acknowledge the sovereign authority of the divine measure, the Good. But he does not anticipate a perfected present in any future, some "far off divine event."

If we complain that Plato has no place for salvation in history but only beyond history, we ought in justice to preface that observation with another. Plato did not attain to a conception of history at all; and one conspicuous reason is that he did not attain to the idea of historical time. Plato's time is either physical or organic; and, primarily, it is physical rather than organic. In so far as time was organic, Plato took his cue, not from growth-in-fulfilment, but from dissolution of every imperfect fulfilment. But, primarily, Plato's time was physical time or "clock time." This is the measurable movement of any body in uniform motion in space. It was only convenience which commended to him uniform solar rotation as standard. Strictly speaking, any measurable motion, viz., regular, would do. But it is wholly immaterial and accidental whether a physical magnitude moves in space in one direction or another. The fact that solar movements were elliptical accorded to time, therefore, the only direction it had, the cyclical. But cyclical motion is repetitious; and, hence, time, as its correlate, really has no direction at all. Thus, it is strange but true that Plato, the father of teleology, has no teleological time. But we cannot attain to history until time somehow acquires *telos*. But, first, time must be seen to be a continuum of duration not reducible to uniform physical motion in

space. Aristotle was to make a step in this direction.

II. ARISTOTLE CONCERNING TIME

Although Aristotle asserted that no thinkers before him had illuminated the real nature of time, students of Plato and Aristotle are not surprised to discover, on examination, that Aristotle's treatment of the time problem is dependent upon Plato's fragmentary but profound reflections. Nevertheless, Aristotle is to be credited, not only with searching and systematic elaboration of the thought of his great predecessor, but also with a number of advances upon it.¹⁰

In the first place, Aristotle was aware that time was integral with any treatment of physics in so far as physics was concerned, not merely with physical magnitudes, but also with such magnitudes in process of change. Changes might be any one of three varieties: local motion, alteration, or growth (organic change).¹¹ Time is the measure of motion in changing magnitudes. If, therefore, we are to render a rational account of bodies in motion, time is an indispensable correlate for expressing velocity. The physical context, then, for the most part, is the one from which Aristotle approached the question of the nature of time. This is most important, because, although Aristotle came near to attaining the concept of organic as distinct from physical time, he was finally prevented because of the standpoint (physics) from which he approached the solution.

Aristotle shared Plato's two basic convictions regarding time: time is a concomitant of all change and time is a certain numeration of any change whatever. The latter thesis Aristotle articulated into the dictum: Time is the numerator or measure of motion.¹²

Although this formula is representative, it is not exhaustive of Aristotle's reflections on the nature of time. Plato's treatment of time in the *Timaeus* left the impression that time had little or no existence apart from orderly movement, pre-eminently, the orderly movement of the outermost heaven. This numerable and numbered movement seemed to constitute time itself.¹³ Any other existence time might have was certainly left undefined. In any case, Aristotle took Plato at his word when the latter said time came into existence with the heaven. But Aristotle's own reflections led him to oppose a simple reduction of time to a measure of physical motion, even though the motions were celestial and accounted divine. Time seemed to him somehow distinguishable from measured motion. He found himself obliged, it is true, to concede that there is no time outside the outermost heaven.¹⁴ Moreover, he was free to confess that, wherever motion was perceived, time was perceived also; but he was persuaded that time could not be identified with ordered physical motion without remainder.

In support of his persuasion of the partial independence of time, Aristotle summoned three formal proofs; but behind the proofs stands an intuition that time is a kind of continuum of duration, a sort of omnipresent, all-embracing frame for mutable existence. Consequently, Aristotle argued, in the first place, that no heavenly revolution, however orderly, could be arbitrarily selected as standard of time lapse. He observed that a portion of the heavenly revolution is quite as much time as the whole of it.¹⁵ Second, Aristotle argued that change is the changing of specified particulars in diverse phases of change, whereas "time is current everywhere alike and in relation to everything."¹⁶ Finally, he pointed to

the fact that velocity of change among bodies is faster or slower, but not so time; and, since the precise rapidity of change is calculated by reference to time, the latter must, consequently, be regarded as a constant.¹⁷

These observations lead to the following result: Although time appears to us as "some kind of passing along and changing," it cannot forthwith be identified with the changes of any magnitudes however great or orderly. It is true that Aristotle, in the last resort, is obliged to follow Plato in deferring to a standard of time passage and to take as that *metron* the uniform rotation of the outermost sphere of the heaven.¹⁸ But Aristotle is aware, as Plato was too, that any selection is an arbitrary, though inescapable, expedient. There must be, for pursuit of rational physics or cosmology, some universally applicable standard of time uniform enough to embrace all lesser times of change within its encompassing period. In due course, therefore, Aristotle was obliged to accredit Plato's view that time and the heaven have existence together; only Aristotle qualifies it: they have a correlative existence together.

Meanwhile, throughout Aristotle's analysis there is a pervasive indication that he conceives time as a quasi-independent continuum of duration, an even, regular flow of a "somewhat" that eludes comprehension because it can only be defined as a correlate of physical motion. Time is said to be identical everywhere.¹⁹ Its "nows" are everywhere simultaneous. Like motion, it is a continual flux. Considered as a "scale," it possesses a dyadic character of more-or-less. As such, it is numerically calculable.²⁰ Moreover, things are said to be "embraced by time" after analogy with things embraced by place.²¹ Altogether, Aristotle seems to be on the verge of according

time independent existence—a kind of permanent possibility of change in changing things. However, this tendency to conceive time as a pre-existing framework of mutability, is checked by Aristotle's agreement with Plato. Time is incomprehensible apart from its correlation with motion. Hence, Aristotle arrives at the somewhat equivocal solution that "time is neither identical with movement nor capable of being separated from it."²²

The reasons for time's nonidentity with motion have been stated. The grounds of its inseparability Aristotle now undertakes to clarify. He observes that we are not conscious of time lapse unless we are simultaneously aware of change. The changes may be outward physical motions, or they may be successive moments of inward experience and reflection. Motion of thought, *dianoia*, or motion in the psyche, as well as motion of things, alerts us to time passage.²³ With this latter observation Aristotle was at the threshold of approaching a nonphysical and, possibly, teleological view of time; but he makes nothing of his observation concerning motion in the soul. He reverts to the exteriorized standpoint and proceeds to give a physical account of time.

In his analysis Aristotle holds that the primary denotation of "before and after" is the positional and spatial situation. There is, in point of fact, a sequential dependence of motion upon space or position and, in turn, of time upon motion. The "before and after" of time is, in rational physics, dependent upon the changed position of bodies in respect to space. Accordingly, Aristotle shortly concludes that physical displacement (motion) is the objective basis of "before-and-afterness" in time.²⁴ This is Aristotle's final word: The before-and-

afterness of time is an "analogy" (*ἀναλογία*) of the "behind-and-before" of spatial location.²⁵ Thus, as there is dependency of motion upon position (displacement), so, by the same token or "proportion," there is dependency of time upon motion. We determine a movement by defining its first and last limit; thereby we also recognize lapse of time. More exactly, awareness of time requires specification of two "nows" marking the start and the terminus of physical displacement.²⁶ It may be added, moreover, that the "now" of time, which is not a "part" of time itself, possesses "analogy" with the moving body in space, the atomic magnitude.²⁷

From this analysis it appears at first sight that Aristotle has quite abandoned his intuition of time as continuum and has ended in reducing time to a function of motion, the sort of thing he had protested in Plato's treatment. Evidently this is not his intention, and he has protected himself by his concept of analogical relations among place, motion, and time. While there is "sequential dependency," the dependency is not direct and logical but analogical. This preserves the partial independence of time to motion as, on the same ground, independence from space is preserved to motion. Hence, Aristotle insists that the before-and-afterness of time is conceptually separable from motion, but in the actuality of physical change it is not so separable.

Following this analysis, Aristotle arrives at his definition of time as "measure" or "numeration of movement." We measure length of uniform movement by time and, conversely, length of time by uniform movement. The two mutually determine each other.²⁸ Time and motion, thus, are correlatives.

As a correlative of motion in space, the

time Aristotle has defined is physical "clock time." It is apparent that Aristotle makes nothing of his observation that there is no consciousness of time where *nous* abides "in a single indivisible and undifferentiated state."²⁹ He does raise the question whether there would be time in the absence of consciousness or psyche. It was this question Augustine was to press. Aristotle's conclusion seems to have been that time, indeed, would not exist apart from some consciousness, because periods of motion would not be counted.³⁰ Here, he is on the verge of perceiving that the dependency of time is not upon physical motion primarily but upon the intelligent subject of experience for whom change is not merely outward but inward and, as Augustine was to show, in an irreversible direction. Aristotle might have discovered teleological and, therefore, historical time; but he failed to probe his own observations.

No more than Plato before him did Aristotle distinguish organic time from physical time. He did assert that time is the measure of any change whatever: local motion, alteration in quality and quantity, and growth. But he does not select organic development as a measure of time. It is not easily numerable, and it does not possess the uniformity of change that movements of sun or moon possess. Hence, like Plato, he resorts to the uniform rotation of the sun's orbit or to that of the outermost sphere because of the precise numerability of these revolutions—their greater rationality. So he remained imprisoned within the confines of physical and cyclical time, neither of which possesses direction or *telos*.

It is true that, like Plato, Aristotle considered the celestial cycles as analogous with the revolution of organic

growth and decay. But, like Plato also, he fastened his eye upon the dissolving rather than augmenting pole of generation. It is the character of time to "crumble" all things. They grow old under the power of time. Time is still the great destroyer; for, says Aristotle, "we regard time in itself as destroying rather than producing."³¹ In so far, therefore, as Aristotle considered organic time, it presented the somber spectacle of growth ending in decay. Whatever direction organic time might have apart from cyclical revolution—and that is no direction at all—it presented a movement toward death and dissolution. The aspiration of the temporal after the eternal, however strenuous, was vain; and there was no conception of the eternal's taking upon itself the temporal. Time and eternity took their separate ways, and the fate of time was, as with Plato, forever to revolve upon itself. Like Plato, therefore, Aristotle did not attain a teleological view of time. He made an important contribution, however. He indicated that time, as measure of change, is a continuum not identifiable with physical motion in space and, therefore, quite as capable of being the matrix of inward as of outward experience. This was a necessary intermediate step to the Augustinian view of historical time.

III. AUGUSTINE CONCERNING TIME

Augustine's reflections on time are distilled for us in Book xi of the *Confessions*.³² Time is discussed within the larger framework of Augustine's treatment of creation. Creation is, of course, *ex nihilo*; therefore, we are prepared for the likelihood that time also will be considered an absolute creation of God. This is expressly affirmed (chaps. 13 and 30).

The problem of time is ostensibly provoked by the irreverent question of the impious as to what God was doing in the time prior to creation and why, presumably, he had not made better use of time in delaying creation so long (xi. 10). Augustine states that he will not press the customary answer: that God was preparing hell for those bold enough to pry into mysteries too high for them. Instead, he will call attention to the fact that the creation of God is God's Word spoken in his Son from eternity (xi. 7 and 9). God neither speaks in time nor is he himself in time (xi. 6). If this were not so, and God partook of time and alteration, there would be no "true eternity" (xi. 7). Augustine is able to make the initial answer, then, that there was no time when God, as the inference was, had not made anything (xi. 14). God is the creator of all ages, of time itself (xi. 13). Augustine is now prepared to ask the prior and more fundamental question: *Quid est tempus?* "What is time?"

In the first place, Augustine takes note of the common notion of a threefold partition of time: past, present, and future (xi. 14 and 17). If nothing were passing away, there would be no past time. If nothing were coming to be, there would be no future time; and, if nothing were, there would be no present time (xi. 14). Now, Augustine takes explicit notice of something to which neither Plato nor Aristotle paid attention. From the standpoint of human experience, time always has direction. Time passes from the future, through the present, into the past (xi. 21). The direction is one way and irreversible. This anthropological fact will have an effect upon the idea of cyclical process. It is imperative to note that Augustine seems to be following the line Aristotle opened but never developed when the latter ob-

served that time is quite as much a correlate of psychical change as of physical change. Augustine's approach to the time problem is not from the outside primarily but from the inside, from the "psychological" standpoint. Augustine is going to ask: What is time *in human experience*? He observes that, in human experience, time flows out of the future, through the present, into the past.

Augustine now takes a closer look at the threefold partition of time. With what right can we speak of future, present, and past time? If we speak of a "long past" or a "long future," do we not speak nonsense? (xi. 14). Time past is gone and is no more. Future time is not yet. How, then, can we speak of length or shortness of past or future times? Indeed, what existence can be accorded to times which are not, since they are "not yet" or have passed away?³³ Augustine inspects the present; but the present is passing away. In agreement with Plato, Augustine remarks that, if the present did not pass but did abide, it would not belong to time but to eternity. It would be an "eternal now." Thus, also in agreement with Plato, in so far as the present is passing away, it is not real but specious. The present is shown to be a vanishing point: "If any instant of time be conceived, which cannot be divided into none, or at least into the smallest particles of moments; that is the only *it*, which may be called present; which little [it] yet flies with such full speed from the future to the past, as that it is not lengthened out with the very least stay."³⁴

Augustine concludes that the present "takes not up any space." He recognizes the predicament; if past and future times are not and the present is a vanishing point, "where is the time which we may call long"? Has time, then, any

existence at all when it is analyzed as a co-implicate of space? Under such treatment, does not the distinctive reality of time dissolve into nonentity? Aristotle's analysis had all but shown this; but his intuition of the reality of time would not permit him to reduce time to displacement of bodies in space. Augustine is about to honor the intuition by referring it to its ground in human experience. Meanwhile, he remarks that it looks very much as though time is illusory or else is not identifiable with future, present, and past but is some sort of continuum in which events, prefigured in the future, occur in the present, and are remembered in the past. Time then will always require reference to the subject of experience.

Whenever Augustine probes his own consciousness, he is aware of what he calls "intervals of time," *intervalla temporum* (xi. 16). These *intervalla* are perceived as longer and shorter. The differences, however, are comparative. A longer interval is, comparatively speaking, double or thrice as long as a shorter interval. But this in itself is paradoxical, because it is doubtful from previous analysis that past, present, or future times have any existence. If they possess no existence, how can they possess longer or shorter intervals? Time is always passing. In its nature, it seems to be nothing but "flow" itself (xi. 16). If we say it is measured *while passing*, we stumble again upon the fact that no fragment of time, past, present, or future, exists in the sense of interval of duration. Without interval of duration, how can we measure time? Augustine wrestles with his problem. He reverts to it somewhat later: "Does not my soul most truly confess to thee that I do measure times? Yea, I do indeed measure them, O my God, yet know not what I measure" (xi.

26). *Quid est tempus?* is still the unanswered question.

The problem is all the more acute for Augustine, because he refuses to employ the motion of some physical body in space as a standard interval of time. Here he departs from Plato and Aristotle. Referring explicitly to Plato, Augustine pronounces his disagreement with the "learned man" who declared that the motions of sun, moon, and stars are times themselves, *ipsa tempora* (xi. 23).

Augustine demands to know why the motions of these particular bodies should be taken as time or the measure of time. Why should not the motion of *any bodies*, even the potter's wheel, be taken as the measure of time? It seems to him that time is not constituted by the measured motion of any particular finite body (xi. 23). He concedes that the "lights of heaven" are *appointed* for "signs" of seasons, days, and years. Here, he may allude to God's appointment or merely to the arbitrary decision of men who select their motions as a measure of time. It is clear Augustine perceives the arbitrariness of the procedure. He perceives that, if time be measured by the motions of some finite bodies (creatures), there is no one of them which is pre-eminently the measure. Pre-eminence is a convenient but arbitrary human choice. Hence, there is, on this basis, no standard interval of time; but, as Aristotle had also declared, any interval is relative and comparative with all other intervals (e.g., the potter's wheel). Consequently, by the purely comparative method, we cannot determine the true certain measure of time (xi. 26).

From the deduction that no finite motion may be taken as the normative measure of time, as the certain interval of duration, Augustine proceeds to a

second insistency. It is of crucial importance. He will not consent to the Platonic-Aristotelian equation: time is the measure of motion. He will not settle for the view that time is the numerically determinate distance traversed by a uniformly moving body from a known point. With great acuteness, Augustine discerned that this amounts to a translation of time into certain standard units of space, an effacement of its distinctive character. Augustine thought he perceived that there would still be time apart from the measured interval of any spatial motion (xi. 32). Time, he asserts, is not measured by movement of any finite bodies in space. He wants to know the force, *vis*, and nature of time "by which we measure the motions of bodies" (xi. 23). "I measure," says Augustine, "the motion of a body in time" (xi. 26). "That the motion of a body should *be* time, I never did hear" (xi. 24). "The motion of a body is one thing, and that by which we measure how long it is, is another thing," declares Augustine (xi. 24). Time is not the motion of a body. Rather, "I, by time, measure how long it may have moved" (xi. 24).

By careful inspection Augustine has hit upon the *sui generis* character of time as interval of duration in human experience. Time is not primarily displacement of a body uniformly moving through space. But what is time in itself, then? "Is my not knowing," Augustine asks, "only perchance a not hitting upon the way of expressing what I know?" (xi. 25). As if replying in the affirmative, Augustine shortly proceeds to suggest that time is nothing else but "a stretching out in length," a *distentione* (xi. 26). But the question returns, a stretching-out of *what*? Time is an interval, a continuum, in which bodies move according to number, no doubt, and in which events

occur, but what is the nature of the continuum? Though the question persists, Augustine has made an advance over the "outlook" of Plato and Aristotle. By searching his own experience, he has discovered that time is, in experience, the consciousness of a certain duration, *distentione*, which is not exhaustively definable in nontemporal, viz., spatial terms. Otherwise stated, time is not the subject of an "analytical proposition" in which measured motion, as the predicate, exhausts the significant content of the subject.

We have now to find out, with Augustine, just what this interval, or distention, is. If it is an interval, it is an interval of *what*? The answer has already been alluded to and is gradually receiving focus in the course of the inquiry. In chapter 20 Augustine refers to the threefold division of time: future, present, and past. Events of past or future do not exist in the present, yet they endure somehow in time. In our soul, *in anima*, there is a present of the past, a present of present events, and a present of future events (xi. 20). Apart from this "present," viz., existence, there are no three times. The long past is retained in memory (*memoria*). The present is entertained by beholding (*contuitus*). The future event is present in expectation (*expectatio*) (xi. 20).

Is it, then, the mind which constitutes the interval of duration? Apparently, this is Augustine's conclusion. Time is the stretching-out of the mind itself (xi. 26). It is the mind that "I measure when—as I measure times," says Augustine (xi. 27).

The mind performs three acts (*acta*). It expects, it marks attentively (*attendo*), and it remembers. Therefore, there endures in the mind an expectation of things to come, a recollection of things

past, and a beholding and attention to things present (xi. 28). The mind, thus, constitutes the direction of duration in which time is a movement from the future through the present into the past. Long future is an extended anticipation of future events. A long present is enduring attention in the present. A long past is a long memory of events passed away (xi. 28). Time, as the direction of duration, seems to be, then, the endurance and identity of the mind, and the mind's experience in three acts—memory, attention, and expectation.

In Augustine's view, time is basically continuum of duration. It is the duration of creaturely existence. Considered as a continuum, physical magnitudes endure and suffer change in time. But time has directionality only for mind. Time possesses direction only for creatures who possess *anima* or *nous* capable of three distinguishable acts: anticipation, attention, and memory. Teleological time, therefore, does not properly belong to the physical world of mechanical or organic change. From this it should be apparent why Augustine, but neither Plato nor Aristotle, attained to the notion of "history" as distinct from nature. Nature really possesses no history. Only *anima* is capable of history. It is because, for mind alone, events move or flow in an inalterable direction: out of the future, through the present, into the past. It is this which gives to human experience its *promise* to come, its realization or non-realization in the present, its happy, or it may be, its bitter memories of the past. Thus, by the inalterability of time flow in human experience, man's duration is susceptible of tragedy or fulfilment. This kind of duration is history or the raw material of historical existence.

For nature, on the other hand, duration either is not in one irreversible direc-

tion or else it is cyclical in movement. If cyclical, teleology is dissolved in everlasting recurrence. Or, if local motion be considered, it is all one whether a body accelerates uniformly through space in one direction or another. There are only the dimensions of space in which a physical magnitude moves. To such

movement there does not properly belong the axiological dimension of historical, that is, teleological time. That dimension belongs properly only to the movement of human experience; and that axiological dimension constitutes the possibility of history as distinguished from nature.

NOTES

1. *Rep.* 493b, 615a; *Phil.* 38e; *Laws* 891a.
2. *Prot.* 345b; *Crat.* 419d.
3. *Tim.* 27d. Cf. *Phaedo* 79a; *Phaedr.* 247d; *Rep.* 585c.
4. *Rep.* 477a–479d; *Phil.* 23c ff.
5. *Phaedo* 75b. Cf. *Symp.* 208a–b.
6. *Met.* 987 b 5. Cf. *Rep.* 476e; *Theaet.* 157a ff.
7. J. E. Harrison, *Themis* (Cambridge: Cambridge University Press, 1927), p. 186.
8. *Rep.* 546a.
9. *Tim.* 49d ff., 51b.
10. For Aristotle's most extended treatment of time see *Phys.* ix. 10–14.
11. *Phys.* 223 a 30 ff., 223 b 9.
12. *Phys.* 221 b 3, 223 a 33; *De caelo* 279 a 15.
13. *Tim.* 39d.
14. *De caelo* 279 a 18.
15. *Phys.* 218 b 1 ff.
16. *Phys.* 218 b 13.
17. *Phys.* 218 b 16–18.
18. *Phys.* 223 b 18 ff.
19. *Phys.* 219 b 16, 220 b 6.
20. *Phys.* 219 b 5.
21. *Phys.* 221 a 29–30.
22. *Phys.* 219 a 2.
23. *Phys.* 219 a 6.
24. *Phys.* 219 a 22, 219 b 16.
25. *Phys.* 219 a 19.
26. *Phys.* 219 a 28 ff.
27. *Phys.* 219 b 24.
28. *Phys.* 220 b 15–17.
29. *Phys.* 218 b 28.
30. *Phys.* 223 a 22 ff.
31. *Phys.* 221 b 1.
32. References are to the "Loeb Classical Library" edition (London: W. Heinemann, 1931). For convenience, most references are inserted in the text.
33. *Conf.* xi. 15. This analysis virtually repeats the observations of Aristotle *Phys.* iv. 10. 1–2.
34. *Conf.* xi. 15.